



BILLERUDKORSNÄS

Designing a Sustainable Packaging Program

Sustainability and our Planet:
Why Your Business Practices Matter





Sustainability and our Planet: Why Your Business Practices Matter

Operating your business with sustainability as a priority can have a powerful impact on brand perception, efficiency and your bottom line. In fact, [recent studies](#) show corporations that actively manage and plan for climate change have an 18% higher return on investment than companies that aren't.

Of the many factors that contribute to your company's carbon footprint, few have a greater impact than your packaging strategy. According to the [U.S. Environmental Protection Agency \(EPA\)](#) and [EuroStat](#):

- Paper and cardboard accounted for 35.4 million tons of waste in the European Union in 2016, while plastic and glass comprised 16.3 million tons of waste
- Containers and packaging are responsible for 70.7 million tons of American municipal solid waste, nearly one-third of MSW
- Landfills received 26.7 million tons of containers and packaging waste in 2015, accounting for about 21.4% of total landfill waste in the U.S.
- Corrugated boxes were the largest single product category of American MSW in 2015 at 31.3 million tons generated, or about 11.9% of total waste generation

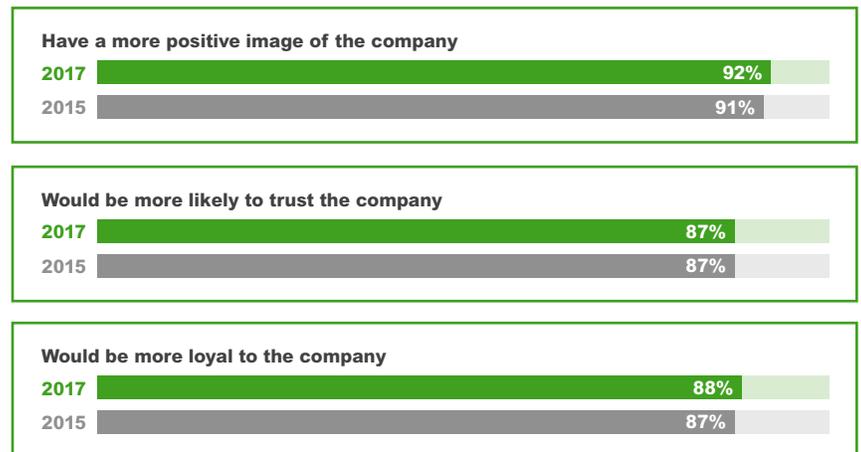
In this ebook, learn why sustainability in packaging matters, how it ultimately translates to greater revenue and how you can deploy and measure a sustainable packaging strategy for your business.

Sustainable Packaging: Good for the Planet, Great for Business

An inefficient packaging strategy contributes to the global packaging waste crisis, and ultimately harms your company's reputation among eco-conscious consumers. According to a [2017 Cone Communications study](#), 92% of those surveyed say they are more likely to trust a company that actively supports environmental issues.



When a company supports a social or environmental issue, consumers say they:



Source: [Cone Communications 2017 Corporate Social Responsibility Report](#)

Similarly, the [2015 Nielsen Global Corporate Sustainability Report](#) found that 73% of millennials are willing to spend more on brands that are purpose-driven, and 81% expect companies to be transparent about corporate social responsibility efforts. By demonstrating your company's commitment to sustainability through more eco-friendly packaging, you can:

- Appeal to a new generation of eco-conscious consumers
- Optimize operational efficiency and performance
- Enhance brand value
- Decrease environmental impact
- Stand out as a sustainability leader in your industry
- Gain visibility and control of organization-wide performance

“Companies operating more sustainably slash costs, manage risks better, drive innovation and build brand value. They're more profitable. And on the specific issue of carbon footprint, the rapid and dramatic improvement in the economics of clean technology means companies can reduce their emissions and energy use, and make money doing it. In short, sustainability isn't remotely at odds with profits.”

- **Andrew Winston**

Corporate advisor and founder of Winston Eco-Strategies



Defining Sustainability in Packaging

As you begin to make the case for sustainable packaging within your organization, be prepared to explain what “sustainable packaging” actually means. The Sustainable Packaging Coalition provides a comprehensive set of criteria that encompasses the [systemic nature of sustainability for packaging](#) and is intended as a “target vision” for companies to strive toward through continuous improvement.



Packaging sustainability encompasses everything from design to production to disposal, and should impact decisions in both the manufacturing process and materials used.

According to the SPC, sustainable packaging:

- Is beneficial, safe and healthy for individuals and communities throughout its life cycle
- Meets market criteria for performance and cost
- Is sourced, manufactured, transported and recycled using renewable energy
- Optimizes the use of renewable or recycled source materials
- Is manufactured using clean production technologies and best practices
- Is made from materials that are healthy throughout the life cycle
- Is physically designed to optimize materials and energy
- Is effectively recovered and utilized in biological and/or industrial closed loop systems

The SPC’s definition has been widely adopted by brands, organizations and entities that have started to tackle the issue of creating more sustainable packaging programs. The Canadian Council of Ministers of the Environment, for example, used SPC’s definition of sustainable packaging in its [Canada-Wide Strategy for Sustainable Packaging](#), which aims to increase awareness and information about packaging sustainability among all packaging actors throughout Canada and to promote reductions in packaging and more sustainable packaging choices at all stages of the packaging life cycle.

Materials in Sustainable Packaging

Recycled vs. Virgin Materials

Paper can only be recycled five to seven times, so the use of virgin fiber in packaging is inevitable to a certain degree. Consequently, a sustainably-minded businesses should also consider how virgin paper materials are sourced and manufactured. When selecting and sourcing virgin materials for packaging, you can reduce the environmental impact of these materials by looking for paper products that bear the [Forest Stewardship Council label](#). This label certifies that virgin paper materials were sourced from sustainably managed forests. The FSC utilizes systems for inspecting and tracking timber and pulp throughout the supply chain.



— Case Study —

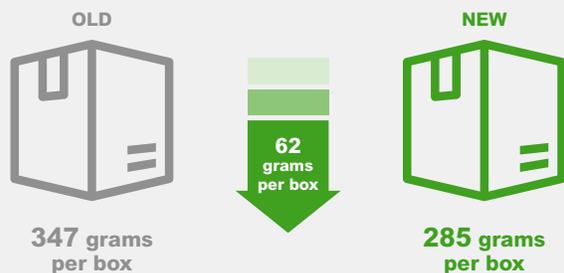
Stronger Virgin Fibers Reduce HP's Carbon Footprint

Each year, HP produces nearly 40 million notebooks in China. A large proportion are shipped to the U.S. and European markets via increasingly costly airfreight. To protect its notebooks in transit, HP wanted a sustainable packaging solution that would keep costs in check. HP also wanted help in reaching one of the ambitious goals created as part of its Sustainable Impact strategy — ensuring that all paper-based product packaging be derived from certified and recycled sources by 2020.

The problem HP faced was that its existing locally sourced packaging was expensive; mill closures and restrictions on imported recycled fibers had caused paper costs in China to soar in recent years. To address this challenge, HP partnered with BillerudKorsnäs. The joint team:

- Studied the box design, material usage and production processes
- Investigated some creative alternatives
- And identified ways to optimize the box design and transform HP's purchasing process for paper and boxes

All BillerudKorsnäs fibers are sourced from responsibly managed forests that are certified by the Forest Stewardship Council, and the strength of these virgin fibers means less material is needed to create a sturdy box (29% less material, in this case). The box also weighs less — resulting in lower shipping costs and reduced emissions from transportation.



Decreased the total fiber usage by almost 2,500 metric tons

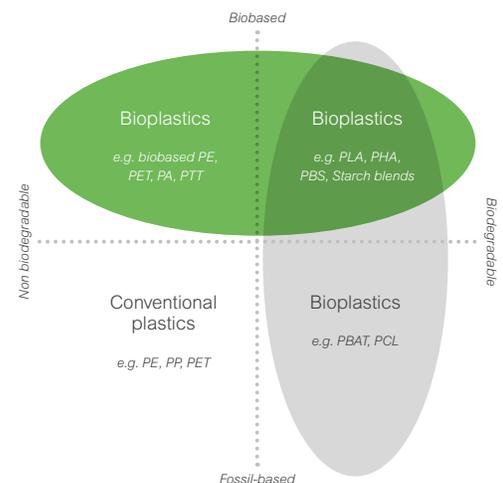
The old packaging weighed 347 grams per box. Replacing the fluting and inside liner with lighter and stronger BillerudKorsnäs materials reduced the weight of each shipping box by 62 grams. Over a 12-month period, this lighter weight decreased the total fiber usage by almost 2,500 metric tons. The new packaging also significantly improved HP's carbon footprint. The reduced material use and transport weight translated to nearly 5,000 metric tons of carbon dioxide not being emitted into the air, which is the equivalent of taking more than 1,000 cars off the road.

Plastics

According to [Global Change Biology](#), plastics disposed of in landfills can take up to 1,000 years to decompose, all the while emitting toxic substances into water and soil. The United Nations Environment Programme [reports](#) dangers in using non-biodegradable plastics in packaging, including:

- One-third of all plastic waste ends up in freshwater or soil
- Disintegration into microplastics, which enter the wildlife food chain
- Toxic effects on organisms that ingest plastic debris

Consequently, a sustainable packaging program should aim to drastically reduce or completely eliminate the use of non-biodegradable plastic, and instead focus on the use of bioplastic. Bioplastic is produced using plant or other biological material, as opposed to traditional plastic that's produced using petroleum. Biobased and biodegradable plastic options include PLA (polylactic acid), PHA (polyhydroxyalkanoates), PBS (polybutylene succinate), and starch blends.



Source: [European Bioplastics](#)



Design

Materials aside, design can have a significant impact on the amount of material used in packaging; how its strength is optimized to allow for safe transport from manufacturer to consumer; and how easily that packaging can be recycled. One goal with packaging design is to reduce the amount of material that is used and how easily that material can be recycled. Consider the following factors when determining the sustainability of your packaging design:

Recyclability

According to the [EPA](#), many types of packaging paper cannot be processed at a recycling facility because of the use of shiny or laminated coatings. This also applies to packaging that has two or more materials joined together with adhesive or wax, sometimes referred to as connected or mixed materials. According to the [Sustainable Packaging Coalition](#), mixed materials do not currently have a public recovery and recycling strategy. Consequently, the design of easily recyclable packaging is a critical element in your overall sustainable packaging program.

Transport Efficiency

In addition to the sustainability of primary packaging, business leaders must also consider the sustainability of packaging that is used to provide containment and protection for products during handling and transport. Easily damaged transport packaging can drive up material use and negatively impact overall sustainability efforts. By opting for returnable transit packaging rather than single-trip packaging, you can significantly reduce your company's carbon footprint.

Energy Efficiency

The packaging design process itself should take into account the amount of energy needed to manufacture certain types of packaging. If a complex packaging design uses a variety of sustainable materials but requires considerable energy to produce in a factory, the design process itself should be simplified to reduce energy consumption.

Supply Chain

There are also indirect environmental costs of unsustainable and non-optimized packaging throughout the supply chain. The use of energy and technology, and the geographical locations of the supply chain, influence its environmental impact. Therefore, it's important to look into every site's unique operations rather than rely on industry averages. The context and details of the supply chain must be examined for an accurate view.



Measuring Sustainability

The success of your sustainable packaging program hinges on the quality of your reporting structure. Without clear data to illustrate how well a sustainable packaging program is reducing your company's environmental impact, you are unlikely to reap the benefits of greater customer loyalty and increased return on investment.

Before you deploy a sustainable packaging program at your company, consider what metrics you will track to evaluate your program's performance. Remember to set goals based on realistic benchmarks within your industry.



Key Performance Indicators

Since packaging impacts multiple steps within your supply chain, there is no single unified metric that clearly illustrates how well your sustainable packaging strategy is performing. Instead, your strategy should include the analysis of multiple indicators designed to track progress in various forms.

By analyzing specific metrics, you can tailor your packaging program to the areas in which your company has the greatest opportunity for growth. For instance, if your company's ratio of recycled versus virgin content in packaging is well below sustainability benchmarks, closer analysis of this metric will help you make a greater impact with your packaging program.



Analyzing an Established Packaging Program

When analyzing the performance of an established packaging strategy, some possible key performance indicators to consider are:

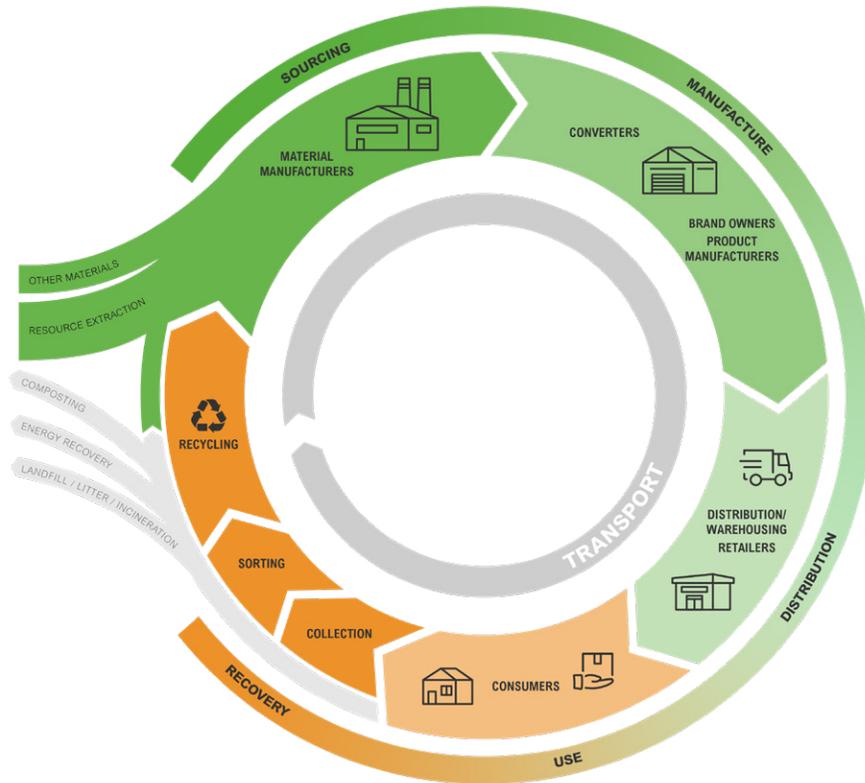
- Percentage of renewable materials used to make a package
- Level of assurance that materials were responsibly grown and harvested
- Percentage of consumers who could recycle a product
- Percentage of packages that are recycled
- Greenhouse gas emissions incurred by operations
- Material waste generated
- Recycled versus virgin material content



Analyzing a New Packaging Program

When you introduce a new sustainable packaging program, some key areas to track in early program stages include:

- Reduction in carbon footprint
- Decrease in energy costs
- Reduction in facilities costs
- Decrease in paper costs
- Reduction in transportation/logistics costs



Life Cycle Assessments

Life Cycle Assessments are a great way to get a sense of how different decisions impact the sustainability of your packaging program overall. For instance, a Life Cycle Assessment can help you make a decision between the use of a lightweight package derived from fossil fuel resources versus a heavier package that is produced using renewable energy.

Factors to consider in Life Cycle Assessments include:

- Raw material extraction and resources needed (energy, material and land use)
- Production and resources needed (energy, material and land use)
- Use, plus emissions and waste
- End of life, plus emissions and waste



Learning from Leaders in Sustainable Packaging

According to global sustainability nonprofit BSR's recent [State of Sustainable Business 2018 report](#), more than 70% of companies are using the UN Sustainable Development Goals to guide strategy and set targets for business sustainability. This represents a 17% increase from the previous year.

As global businesses find success in their sustainable packaging efforts, you can draw on their successes to better tailor your sustainable packaging strategy. Consider the ways in which these global sustainability leaders are driving growth through sustainable packaging programs.



Microsoft

Microsoft is a packaging sustainability leader because of their focus on innovative packaging design and material utilization. The global technology company is a member of the [SPC](#), and has included the organization's How2Recycle label on its product packaging since 2013. The label clearly explains to consumers how each component of the package can be recycled properly, including special instructions for commonly-mishandled materials.

According to their [2017 Sustainable Devices and Packaging Report](#), Microsoft has already made significant improvements in packaging sustainability in these key areas:

35% ↓
Reduced overall package weight by 35%

7% ↑
Increased overall product-to-package size ratio by 7%

Eliminated elemental chlorine in the paper bleaching process

According to [annual rankings](#) released by global environmental nonprofit CDP, Microsoft was among 120 companies to earn an A grade for their action on climate change in 2018.

Diageo

Diageo, a multinational alcoholic beverages company best known for its signature brands including Smirnoff and Guinness, is a leader in sustainable packaging. Diageo's sustainability efforts are built upon the concept of the [circular economy](#), which is defined by the Ellen MacArthur Foundation as one that is restorative and regenerative by design and aims to keep products, components and materials at their highest utility and value at all times.

According to the company's [Sustainable Packaging Commitments 2016 Report](#), Diageo's 2020 sustainability goals include:

45% ↑
Increase average recycled content to 45%

15% ↓
Reduce total packaging weight by 15%

100%
Ensure 100% of packaging is recyclable

Sustainably source 100% of paper and board packaging to ensure zero net deforestation

"Great packaging is essential for our products. Consumers expect our packs to look beautiful, be functional, and sustainable. Failure to deliver any of these is not an option. That's why we will drive year on year improvements toward the smallest environmental footprint by 2020."

- David Cutter
President of Global Supply and Procurement, Diageo



REI

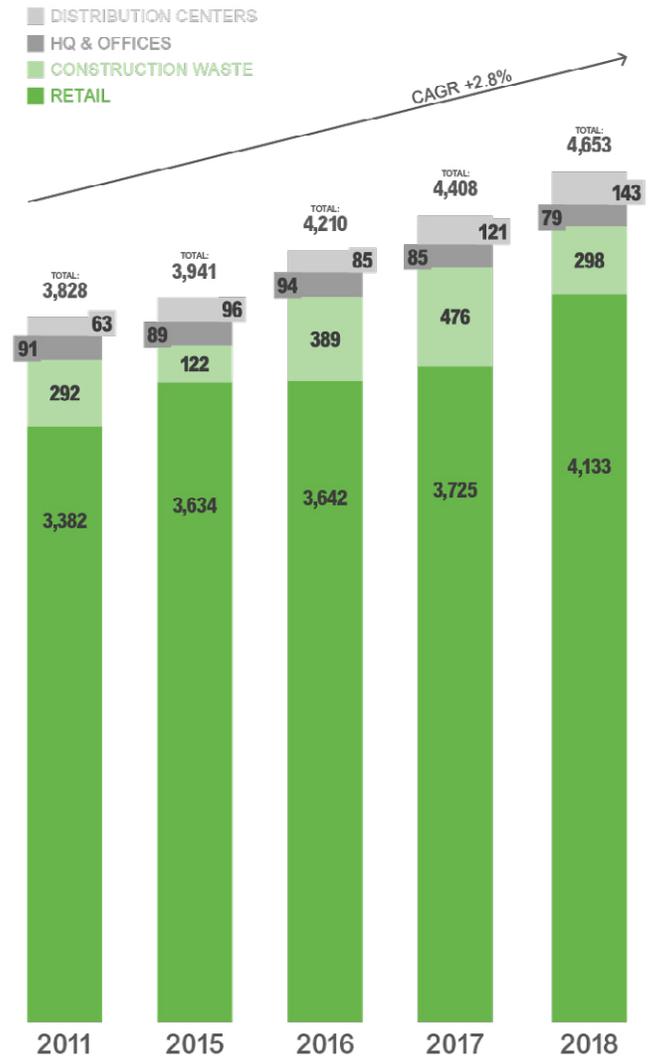
Retail and outdoor recreation company REI has taken a proactive leadership role in the sporting goods space, serving as a [steward for the outdoors](#) via sustainable business practices including the adoption of [sustainable packaging guidelines](#).

REI’s goal is to minimize the environmental impact of their packaging by:

- ✔ Designing to reduce material use and eliminating packaging where possible
- ✔ Designing for reuse throughout the supply chain
- ✔ Designing for recyclability and using the How2Recycle labeling system
- ✔ Using sustainable paper and paperboard sourced from FSC®-certified forests or recycled post-consumer waste
- ✔ Using sustainable corrugated transit packaging (FSC®-certified cardboard, certified PCW cardboard or both)
- ✔ Choosing better plastics
- ✔ Minimizing polybags and avoiding polybags that contain PVC

By designing and scaling sustainable packaging standards, and striving towards a zero waste goal, REI is influencing paper supply chains beyond their immediate sphere.

The outdoor brand’s sustainability efforts also extend to their products and all brands sold at their stores. They have [gear and clothing made with FSC®-certified materials](#), organically grown cotton, recycled materials, fair trade goods and other [sustainability attributes](#).



Source: REI

“Our climate is changing, faster than predicted. That’s not abstract or distant. It’s affecting lives already, close to home. Dramatic and damaging weather events are happening in our communities and affecting people we know. The changes are accelerating and people who are less fortunate will be hit hardest. If we don’t act, our kids will have to carry the load, and we need to do our part and show that business can make a difference.”

- Eric Artz

Interim president and CEO, and Steve Hooper, board chair, REI



Putting It All Together: Developing a Sustainable Packaging Program

When packaging plays a central role in your business, developing a sustainable packaging program is the first step toward reducing your company's environmental footprint. Let's take a look at who within your business will play a critical role in your sustainability efforts.



Who's Involved?

Suppliers and Vendors

It is critical to evaluate how your current suppliers and vendors impact sustainability efforts, and how their own guidelines for sustainability compare to your own.

Packaging Designers and Engineers

Packaging designers and engineers influence the types of amounts of materials in your packaging. Therefore, packaging designers and engineers should be embedded early in your strategy development to ensure the best possible results.

Project Managers

Project managers play a critical role in the success of your sustainable packaging program because they direct conversations with suppliers, vendors and other key packaging personnel. Ensure your project managers understand how to measure and report on sustainability KPIs.

The C-Suite

Executive buy-in is critical for any sustainable packaging initiative. Get their support by highlighting the ways your sustainable packaging program impacts high-level business goals.

Challenges to Anticipate

Organizational Challenges

The purpose and reasoning behind your sustainable packaging program must be clearly communicated to employees, stakeholders and customers, especially when it impacts the way your business and/or products are perceived.

Data Collection

Anything you implement for your business should make financial sense. Data collection is valuable because it keeps your sustainable packaging program on track, holds your partners accountable and gives you something to present to customers to show you are making progress. Use the KPIs highlighted in this ebook as a guide for what to measure, and work with your suppliers and vendors to gather accurate data.

Resource and Budget Constraints

When getting budget and resource approval for your sustainable packaging program, make sure you highlight the following:

Estimated Costs: Including vendor agreement and training.

Anticipated Return on Investment: Use case studies from comparable companies to detail what kind of return you can expect and how you will measure it.

Ask your sustainable packaging vendor to create a proposal that address budget and projected return on investment in a format that your stakeholders will understand.

The Process



Define Program Objectives

Outline both short-term and long-term objectives that will be used to track the success of your packaging program. These objectives might look like this:

Short-term: In the next year, we will decrease material use in our packaging by 3%.

Long-term: In 10 years, our business will phase out the use of non-biodegradable plastic in our packaging.



Select Appropriate Metrics and Indicators

Before you launch your program, decide how you'll measure progress. You need accurate data, so work on capturing life cycle impact as well as customer metrics like sales and sentiment.



Identify Areas of Focus

A gradual move toward 100% sustainable packaging maximizes positive impacts while minimizing operational disruption. Pinpoint which packaging needs you want to focus on in the near future, and have measurement tools in place to gauge how well you are progressing toward these specific sustainability goals.



Establish a Baseline

Take inventory of where you are now to establish internal benchmarks. Use these benchmarks to measure both short-term and long-term growth.



Set Priorities

Determine which areas of your current packaging program have the most opportunity for improvement. Start with quick wins to gain momentum and build confidence in your sustainable packaging program.



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How BillerudKorsnäs Can Help

Developing, implementing and maintaining a sustainable packaging program can be hard, especially if you are limited in terms of the resources at your disposal. Fortunately, that's where BillerudKorsnäs comes in. From design and engineering to sourcing and distribution, our teams make the complex world of packaging simple so global brands can focus more on the benefits of better packaging and less on the day-to-day aspects of managing packaging overseas.

If you want to explore opportunities to make your packaging program more sustainable, from more eco-friendly box materials to higher amounts of packaging recovered at warehouses and DCs to lightweight packaging that cuts shipping costs and carbon emissions, BillerudKorsnäs can help.

Customer engagements begin with a no-obligation, no-cost audit of your packaging and shipping operations in Asia to identify savings opportunities. [Contact us today](#) to learn how we can support you in every step along the way as you look to improve your brand's packaging operations.

[FIND OUT MORE](#)